CLAIMS:

1. A wavelength-determining unit (20) for determining the wavelengths of a plurality of successive optical signals $\lambda(t)$, comprising:

a wavemeter unit (30) adapted for determining first wavelength values $\lambda1(t)$ for the optical signals $\lambda(t)$,

an absolute-measuring unit (40) having unambiguous wavelength properties at known absolute wavelength values, and being adapted for determining second wavelength values $\lambda2(t)$ as such of the known absolute wavelength values covered by the optical signals $\lambda(t)$, and

an evaluation unit (50) adapted for receiving the determined first $\lambda1(t)$ and second $\lambda2(t)$ wavelength values and for providing corrected wavelength values $\lambda1'(t)$ based on a comparison of the determined first $\lambda1(t)$ and second $\lambda2(t)$ wavelength values.

2. The wavelength-determining unit (20) of claim 1, wherein the wavemeter unit (30) has a wavelength characteristic known in principle or derived from former measurements, whereby the evaluation unit (50) adjusts the known wavelength characteristic based on the determining second wavelength values $\lambda2(t)$.

3. The wavelength-determining unit (20) of claim 1 or 2, wherein the evaluation unit (50) comprises a correlation unit for correlating the determined first wavelength values $\lambda1(t)$ with the second wavelength values $\lambda2(t)$.

4. The wavelength-determining unit (20) of claim 1 or any one of the above claims, wherein the evaluation unit (50) determines one or more offset

and/or corrections values for correcting the determining first wavelength values $\lambda 1(t)$ to the corrected wavelength values $\lambda\ 1'(t)$.

5. The wavelength-determining unit (20) of claim 1 or any one of the above claims, wherein the wavemeter unit (30) comprises an interferometer.

6. The wavelength-determining unit (20) of claim 1 or any one of the above claims, wherein the absolute-measuring unit (40) comprises a gas absorption cell.

7. A measuring unit for measuring an optical characteristic of a device under test – DUT – (100), comprising:

a wavelength variable laser source (10) adapted for providing an optical signal $\lambda(t)$ to the DUT (100), the optical signal $\lambda(t)$ having a wavelength variation over the time,

a wavelength-determining unit (20) of claim 1 or any one of the above claims adapted for receiving the optical signal $\lambda(t)$ and determining wavelength values $\lambda 1(t)$ thereof over the time,

a receiver (110) for receiving a signal response on the optical signal $\lambda(t)$ provided to the DUT (100), and

an evaluation unit (200) receiving the signal response and the thereto corresponding determined wavelength values $\lambda 1'(t)$.

8. A measuring unit for measuring an optical characteristic of a device under test – DUT – (100), comprising:

a wavelength variable laser source (10) adapted for providing an optical signal $\lambda(t)$ to the DUT (100), the optical signal $\lambda(t)$ having a wavelength variation over the time,

a wavelength-determining unit (20) adapted for receiving the optical signal $\lambda(t)$ and determining relative wavelength values $\lambda 1(t)$ and

absolute wavelength values $\lambda 2(t)$ thereof over the time,

a receiver (110) for receiving a signal response I(t) on the optical signal $\lambda(t)$ provided to the DUT (100), and

an evaluation unit (50) receiving the signal response of the receiver (110) and thereto calculating the corresponding wavelength values $\lambda 1'(t)$ out of the wavelength values $\lambda 1(t)$ and $\lambda 2(t)$ from the wavelength-determining unit (20) resulting in a spectral response $I(\lambda)$ of the DUT (100).

9. A method for determining the wavelengths of a plurality of successive optical signals $\lambda(t)$, comprising the steps of:

(a) determining first wavelength values $\lambda 1(t)$ for the optical signals $\lambda(t)$,

(b) using an absolute-measuring unit (40) having unambiguous wavelength properties at known absolute wavelength values for determining second wavelength values $\lambda 2(t)$ as such known absolute wavelength values covered by the optical signals $\lambda(t)$, and

(c) providing corrected wavelength values $\lambda 1'(t)$ based on a comparison of the determined first $\lambda 1(t)$ and second $\lambda 2(t)$ wavelength values.

10. A software product, preferably stored on a data carrier, for executing the method of claim 9, when run on a data processing system such as a computer.